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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,882	08/04/2005	Paul Meldahl	1101.143US01	7390
24113 7590 03/01/2007 PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			EXAMINER HUGHES, SCOTT A	
			ART UNIT 3663	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
31 DAYS		03/01/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,882	<b>Applicant(s)</b> MELDAHL, PAUL	
	<b>Examiner</b> Scott A. Hughes	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-33 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-20, drawn to a method of seismic exploration.

Group II, claim(s) 33, drawn to an apparatus for analyzing a seismic event.

Applicant's "means for" claims 21-32 will be grouped with applicant's elected Group.

Upon election of Group I, the elected claims will be 1-32.

Upon election of Group II, the elected claims will be 21-33.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The process and apparatus claims contain more than species, and therefore contain multiple processes and apparatuses. This does not fall within the allowable combinations of categories of

Art Unit: 3663

inventions. Further, the claims do not share a special technical feature which defines a contribution over the prior art (see Berni - US 5070483, or Donskoy - US 6134966).

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

- A. The embodiment wherein the movements are monitored using light only.
- B. The embodiment wherein the movements are monitored using another form of radiation only.

Upon election of A, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

- a. The embodiment wherein the light is visible light only.
- b. The embodiment wherein the light is x-rays only.
- c. The embodiment wherein the light is UV light only.
- d. The embodiment wherein the light is IR light only.

Upon election of A, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

Art Unit: 3663

i. The embodiment wherein the monitoring apparatus comprises three sources of coherent mono frequency light and a receiver only.

ii. The embodiment wherein the monitoring apparatus comprises a single source of coherent light and three receivers only.

Upon election of B, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

I. The embodiment wherein the radiation is radio waves only.

II. The embodiment wherein the radiation is radar only.

III. The embodiment wherein the radiation is sonar only.

IV. The embodiment wherein the radiation is acoustic waves only.

Upon election of A or B only, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

Aa. The embodiment wherein the monitoring apparatus is moved relative to the earth's surface during the response period only.

Ab. The embodiment wherein the monitoring apparatus is kept stationary during the response period and moved after the response period only.

Ac. The embodiment wherein the monitoring apparatus comprises several devices used simultaneously at different positions only.

Upon election of A or B only, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

Ba. Applicant is required to elect a single species for what type of particle motion is analyzed in the analyzing step (e.g. particle displacement only; particle displacement and velocity only).

Upon election of A or B only, Applicant is required to elect a single species of the following to which the claims shall be restricted if no generic claim is finally held to be allowable:

AA. The embodiment wherein the monitoring apparatus is self-propelled only.

BB. The embodiment wherein the monitoring apparatus is towed only.

The reply must also identify the claims readable on all of the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Art Unit: 3663

The claims are deemed to correspond to the species listed above in the following manner:

- A. Claims 1-33.
- B. 1-8, 13-25, 28-32.
  - a. 1-33.
  - b. 1-33.
  - c. 1-33.
  - d. 1-33.
  - i. 1-33.
  - ii. 1-33.
- I. 1-8, 13-25, 28-32.
- II. 1-8, 13-25, 28-32.
- III. 1-8, 13-25, 28-32.
- IV. 1-8, 13-25, 28-32.
  - Aa. 1-4, 7-23, 26-33.
  - Ab. 1-2, 5, 7-22, 24, 26-33.
  - Ac. 1-2, 6-22, 25-33.
  - AA. 1-33.
  - BB. 1-33.

The following claim(s) are generic: claims 1, 7, 13-15, 17-21, 28-29, 31-32.

Art Unit: 3663

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: The method and apparatus claims contain multiple species, and therefore contain multiple apparatus and process inventions. This does not fall under one of the allowable combinations of categories of inventions.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103 (a) of the other invention.

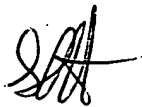


Art Unit: 3663

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A. Hughes whose telephone number is 571-272-6983. The examiner can normally be reached on M-F 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



SAH



JACK KEITH  
SUPERVISORY PATENT EXAMINER